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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/076,581

02/19/2002

Toyoyuki Manabe

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02/03/2003

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EXAMINER

CHOI, JACOB Y

ART UNIT

PAPER NUMBER

2875

DATE MAILED: 02/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/076,581

Applicant(s)

MANABE, TOYOYUKI

Examiner

Jacob Y Choi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the phrase "should satisfy" or "satisfies" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Objections

3. Claim 8 is objected to because of the following informalities: applicant claims that "the reflective surface of the reflector is formed with the reflection angle for each of the plurality of reflection regions being set to be zero or a negative angle as view from the optical axis" however, drawing figures show that the reflection regions being set to be zero or a negative angle as view from the axis that is perpendicular to the optical axis. Appropriate correction is required.

Drawings

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4. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the reflective surface of the reflector is formed with the reflection angle for each of the plurality of reflection regions being set to be zero or a negative angle as view from the optical axis must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

8. Claims 6-8 are rejected under 35 U.S.C. 102(b) as being anticipated by either English et al. (USPN 5,577,833) or Nino (USPN 4,916,585).

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Regarding claim 6, either English et al. (USPN 5,577,833) or Nino (USPN 4,916,585) clearly discloses a light source, a reflector having a reflective surface that reflects light from the light source in the direction of prescribed optical axis, and a lens through which light reflected by the reflective surface passes, wherein the reflective surface of the reflector is such that the inside of a reflective surface outline is segmented into a plurality of reflection region along a segmentation axis that is perpendicular to the optical axis by a plurality of segmentation lines that are approximately perpendicular to the optical axis and the segmentation axis, and, for each of the plurality of reflection regions, a surface shape of a segment surface which forms the reflective surface in that reflection region is formed in a surface shape having as a reflection axis the direction of a reflection angle in the direction of the segmentation axis as viewed from the optical axis, the reflection angle being set for each of the reflection regions.

Regarding claim 7, either English et al. (USPN 5,577,833) or Nino (USPN 4,916,585) clearly discloses the light source is installed such that the longitudinal direction of the shape of a light-emitting region thereof is approximately perpendicular to the optical axis, and the reflective surface of the reflector is formed with an axis approximately perpendicular to the optical axis and the longitudinal direction of the shape of the light-emitting region being taken as the segmentation axis.

Regarding claim 8, either English et al. (USPN 5,577,833) or Nino (USPN 4,916,585) clearly discloses the reflective surface of the reflector is formed with the

reflection angle for each of the plurality of reflection regions being set to be zero or a negative angle as viewed from the optical axis.

9. Claims 6-8 are rejected under 35 U.S.C. 102(e) as being anticipated by either De Lamberterie (USPN 6,409,369) or Nino et al (USPN 6,419,381) or Maeda et al. (USPN 6,493,096).

Regarding claim 6, either De Lamberterie (USPN 6,409,369) or Nino et al (USPN 6,419,381) or Maeda et al. (USPN 6,493,096) clearly discloses a light source, a reflector having a reflective surface that reflects light from the light source in the direction of prescribed optical axis, and a lens through which light reflected by the reflective surface passes, wherein the reflective surface of the reflector is such that the inside of a reflective surface outline is segmented into a plurality of reflection region along a segmentation axis that is perpendicular to the optical axis by a plurality of segmentation lines that are approximately perpendicular to the optical axis and the segmentation axis, and, for each of the plurality of reflection regions, a surface shape of a segment surface which forms the reflective surface in that reflection region is formed in a surface shape having as a reflection axis the direction of a reflection angle in the direction of the segmentation axis as viewed from the optical axis, the reflection angle being set for each of the reflection regions.

Regarding claim 7, either De Lamberterie (USPN 6,409,369) or Nino et al (USPN 6,419,381) or Maeda et al. (USPN 6,493,096) clearly discloses the light source is installed such that the longitudinal direction of the shape of a light-emitting region

thereof is approximately perpendicular to the optical axis, and the reflective surface of the reflector is formed with an axis approximately perpendicular to the optical axis and the longitudinal direction of the shape of the light-emitting region being taken as the segmentation axis.

Regarding claim 8, either De Lamberterie (USPN 6,409,369) or Nino et al (USPN 6,419,381) or Maeda et al. (USPN 6,493,096) clearly discloses the reflective surface of the reflector is formed with the reflection angle for each of the plurality of reflection regions being set to be zero or a negative angle as viewed from the optical axis.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over either De Lamberterie (USPN 6,409,369) or Nino et al (USPN 6,419,381) or Maeda et al. (USPN 6,493,096) or English et al. (USPN 5,577,833) or Nino (USPN 4,916,585).

Regarding claim 1, either De Lamberterie (USPN 6,409,369) or Nino et al (USPN 6,419,381) or Maeda et al. (USPN 6,493,096) or English et al. (USPN 5,577,833) or Nino (USPN 4,916,585) discloses a basic condition setting step of setting basic conditions including a light source position in which a light source is disposed, an optical axis that is the direction in which light from the light source is reflected by a reflective

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surface of a reflector, and a reflective surface outline of the reflective surface as viewed from the direction of the optical axis,

a segmentation condition setting step of setting segmentation conditions including a segmentation axis that is perpendicular to the optical axis and designates the direction in which the inside of the reflective surface outline is segmented into a plurality of reflection regions, and a number of segments into which the inside of the reflective surface outline is segmented along the segmentation axis,

a reflection condition setting step of setting reflection condition for each of the plurality of reflection regions, including a reflection angle that designates the direction in which light from the light source is reflected by a segment surface that forms the reflective surface in that reflection region in terms of the angle in the direction of the segmentation axis as viewed from the optical axis, and

a solid angle condition that the solid angle of the segment surface when viewed from the light source should satisfy, and

a reflective surface determining step of, based on the basic conditions, segmenting the inside of the reflective surface outline to generate the plurality of reflection regions, creating a surface shape of the segment surface corresponding to each of the plurality of reflection regions, the determining a surface shape that satisfies a prescribed light distribution condition for a whole of the reflective surface composed of the segment surface.

Regarding claim 2, either De Lamberterie (USPN 6,409,369) or Nino et al (USPN 6,419,381) or Maeda et al. (USPN 6,493,096) or English et al. (USPN 5,577,833) or

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Nino (USPN 4,916,585) discloses a reflection region generating step of segmenting the inside of the reflective surface outline by a plurality of segmentation lines approximately perpendicular to the optical axis and the segmentation axis to generate the plurality of reflection regions, while referring to the number of segments and the solid angle conditions, and

a segment surface-creating step of creating the surface shape of the segment surface corresponding to each of the plurality of reflection regions with the direction of the reflection angle for that reflection region taken as a reflection axis, while referring to the reflection angles.

Regarding claim 3, either De Lamberterie (USPN 6,409,369) or Nino et al (USPN 6,419,381) or Maeda et al. (USPN 6,493,096) or English et al. (USPN 5,577,833) or Nino (USPN 4,916,585) discloses the reflective surface determining step, the surface shapes of the segment surface corresponding to the plurality of reflection regions are created in order from a reflection region on the side of the light source towards a reflection region on the outside, or from a reflection region on the outside towards a reflection region on the side of the light source, such that a prescribed connection condition is satisfied for adjacent ones of the segment surfaces.

Regarding claim 4, either De Lamberterie (USPN 6,409,369) or Nino et al (USPN 6,419,381) or Maeda et al. (USPN 6,493,096) or English et al. (USPN 5,577,833) or Nino (USPN 4,916,585) discloses the basic condition setting step, the shape of a light-emitting region of the light source is set as one of the basic donations such that the longitudinal direction thereof is approximately perpendicular to the optical axis, and in

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the segmentation condition setting step, the segmentation axis is set so as to be approximately perpendicular to the optical axis and the longitudinal direction of the shape of the light-emitting region.

Regarding claim 5, either De Lamberterie (USPN 6,409,369) or Nino et al (USPN 6,419,381) or Maeda et al. (USPN 6,493,096) or English et al. (USPN 5,577,833) or Nino (USPN 4,916,585) discloses the reflection condition setting step, the reflection angle for each of the plurality of reflection regions is set to be zero or negative angle as viewed from the optical axis.

It has been held to be entitled to weight in method claims, the recited structure limitations therein must affect the method in a manipulative sense, and not to amount to the mere claiming of a use of a particular structure. Ex parte Pfeiffer, 1962 C.D. 408 (1961).

The method of forming the device is not germane to the issue of patentability of the device itself. Therefore, this limitation has not been given patentable weight.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sato et al. (USPN 6,280,064) – vehicle signal lamp

Natsume et al. (USPN 6,224,246) – signal lamp for vehicle

Kanou (USPN 6,045,245) – vehicular lamp with separated paraboloid reflective surfaces

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Natsume (USPN 6,505,961) – method of evaluating basic curved surface for reflecting mirror, evaluation system for evaluating basic curved surface for reflecting mirror, and computer-readable storage medium

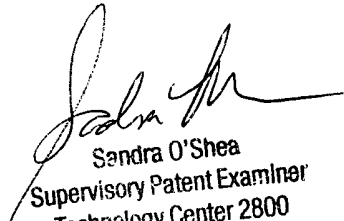
Mabe et al. (USPN 6,474,845) – vehicle lamp having a reflective containing film coating aluminum flakes

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacob Y Choi whose telephone number is (703) 308-4792. The examiner can normally be reached on Monday-Friday (10:00-7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (703) 305-4939. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-7724.

JC
January 21, 2003



Sandra O'Shea
Supervisory Patent Examiner
Technology Center 2800